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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/766,895	12/13/1996	DAVID S. DUNNING	42390.P3991	8024

7590 09/12/2005

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EXAMINER

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ART UNIT PAPER NUMBER

2665

DATE MAILED: 09/12/2005

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 08/766,895  
Filing Date: December 13, 1996  
Appellant(s): DUNNING ET AL.

**MAILED**  
SEP 12 2005  
**GROUP 2800**

Stuart A. Whittington  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 06/06/2005.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The rejection of claims 1-27 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

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**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,442,474

Huang et al.

8-1995

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang (USP 5442474).

Regarding claim 1, Huang teaches the step of receiving at a switch (500) a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (routing bits) chosen so that the bit pattern (routing bits) directly provides information regarding routing the packet through the network in its encoded form (see the col. 3, lines 47-53) and copying said bit pattern at least for decoding (see the copying of routing bits by detector 520 for decoding purposes). Huang clearly teaches that the routing bit pattern is made unique by using a routing bits encoded binary form in such a way that it can be readily detected (directly provides information) and use to route the packet. Furthermore, Huang's routing bits also directly provide

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routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply providing four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

Regarding claim 2, the received binary digital signal is decoded by node 500.

Regarding claim 3, figure 5 shows that the node receives the binary signal serially, and the de-serialization is performed by DEMUX's 500, 551 and 552.

Regarding claim 4, the received encoded binary digital signals is de-serialized and translated into for binary digital signals as shown in four output paths in figure 5.

Regarding claim 5, the de-serialized and translated binary digital signals are routed to four different output paths as shown in figure 5.

Regarding claims 6 and 7, the output paths of node 500 are connected to other node (switches) in the network to route the output signals to their intended destinations.

Regarding claim 8, the encoded binary digital signals used to route the packet through the network comprises an encoded destination address (routing bits).

Regarding claim 9, the encoded binary digital signals used to route the packet through the network comprise encoded binary digital signal specifying a route through the network if decoded (see the use of the routing bits of the encoded signals for specifying a route).

Regarding claim 10, Huang teaches a switch (500) adapted to receive a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (routing bits) so that the bit pattern (routing bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) and to copy said bit

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pattern at least for decoding (see the copying of routing bits by detector 520 for decoding purposes). Huang clearly teaches that the routing bit pattern is made unique so that it can be readily detected (directly provides information) in encoded form. It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed Abit pattern chosen so that the bit pattern directly provides information regarding routing the packets can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply providing four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use these routing bits.

Regarding claim 11, the switch (500) serially receives the packet (packet frame, figure 2) and serially copies the encoded binary digital signals to route the packet through the network (see the copying of routing bits of the received signal for determining how to route the packet in figure 5).

Regarding claim 12, the switch (500) further adapted to decode and the deserialize the copied encoded binary digital signals (see the decoding and deserializing of the received encoded signal by blocks 510, 520 550, 551 and 552 in figure 5).

Regarding claim 13, the received encoded binary digital signal is translated into four binary digital signals as shown in four output paths in figure 5.

Regarding claim 14, the output paths of node 500 are connected to other nodes in the network to route the output signals to their intended destinations.

Regarding claim 15, the encoded binary digital signals used to route the packet through the network comprises an encoded destination address (routing bits).

Regarding claim 16, the encoded binary digital signals used to route the packet through the network comprise encoded binary digital signal specifying a route through the network if decoded (see the use of the routing bits of the encoded signals for specifying a route).

Regarding claim 17, Huang teaches step of receiving at a switch (500) a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (routing bits) so that the bit pattern (routing bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding. Huang clearly teaches that the routing bit pattern is made unique so that it can be readily detected (directly provides information). It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed A bit pattern chosen so that the bit pattern directly provides information regarding routing the packet's can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply providing four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use these routing bits.

Regarding claim 18, the encoded binary digital signals used to route the packet through the network without decoding comprises a portion of the header (H1, H2; figure 2) of the packet.

Regarding claim 19, the binary digital signals are routed to four different output paths as shown in figure 5.

Regarding claims 20 and 21, the output paths of node 500 are connected to other nodes (switches) in the network to route the output signals to their intended destinations.

Regarding claim 22, Huang teaches a switch (500) adapted to receive a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (routing bits) so that the bit pattern (routing bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding. Huang clearly teaches that the routing bit pattern is made unique so that it can be readily detected (directly provides information). It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed bit pattern chosen so that the bit pattern directly provides information regarding routing the packets can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply providing four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to decode these routing bits.

Regarding claim 23, the encoded binary digital signals used to route the packet through the network without decoding comprises a portion of the header (H1, H2; figure 2) of the packet.

Regarding claim 24, the binary digital signals are routed to four different output paths as shown in figure 5.

Regarding claim 25, Huang teaches a routing unit (100) adapted to produce to be included in a packet (packet frame, figure 2) binary digital signals as encoded binary digital signals including a bit pattern (routing bits) chosen so that when the bit pattern (header bits) is



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encoded it directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding. Huang clearly teaches that the routing bit pattern is made unique so that it can be readily detected (directly provides information). It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed A bit pattern chosen so that the bit pattern directly provides information regarding routing the packets can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply providing four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use these routing bits.

Regarding claim 26, routing unit (100) is a network interface component since it is used to interface with the network.

Regarding claim 27, routing unit (100) is coupled to a switch (130, 500) adapted to route a packet (packet frame, figure 2) of binary digital signals through the network in accordance with the encoded binary digital signals including a bit pattern (routing bits) so that the bit pattern directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding (see figures 1 and 5).

**(11) Response to Argument**

3. Applicant's arguments filed 6/17/04 have been fully considered but they are not persuasive.

With respect to appellant's argument that Huang fails to disclose digital signals that are encoded to include a bit pattern selected so that it directly provides information regarding routing the packet through the network in its encoded form, examiner notes that Huang discloses routing bits which are encoded binary bits. In Huang's routing system, routing bits are in the form of encoded binary bits as seen in figure 2. It is further noted that binary encoding is one the most fundamental encoding techniques in the art of building communication systems. (Copies of the first three pages of the book titled "Information Theory and Reliable Communication" (1968) by Robert G. Gallager, are included herein. Figure 1.1.2 in page 3 shows the use of a binary encoder as the source encoder, which encodes source information into binary data).

In addition, Huang's routing bits also directly provide information regarding routing the packet in its encoded form (see col. 6, lines 14-31 and col. 6, line 59 to col. 7, line 20). Thus, Examiner submit that Huang's routing bits clearly anticipate the claimed digital signals that are encoded to include a bit pattern selected so that it directly provides information regarding routing the packet through the network in its encoded form.

With regard to appellant's argument that Huang fails to disclose the limitation of copying the bit pattern at least for decoding, it is noted that the copying of bit pattern is performed by Huang's routing bits selector 520 in combination with routing bit storages 530 and 540 for decoding purposes.

With respect to appellant's argument that Huang's routing bits are not encoded binary bits because the interpretation that binary signals are not considered encoded binary bits, Examiner notes that such statement is merely a conclusion and not supported by facts. As discussed above, binary encoding is one the most fundamental encoding techniques in the art of

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building communication systems. Binary bits are the results of a binary encoding technique. Furthermore, Huang's routing bits are not any random binary bits. Huang's routing bits are bits that are binary encoded to carry routing information for a packet.

With regard to appellant's argument that there are many techniques for encoding binary signals, such as Manchester encoding, such Manchester encoding scheme is not found in any rejected claims. Thus, it is irrelevant as to whether or not the reference teach such limitation.

Regarding claim 10, the bit pattern to which appellant refers are equivalent to the routing bits disclosed by Huang. Routing bits clearly provides routing information.

With respect to the appellant argues that Huang fails to disclose decoding the copied encoded binary digital signals. In reply, Huang discloses the step of decoding the copied encoded binary signal by routing bits selector 520 and first and second routing bit storage 530 and 540 of Fig 5 in order to separate the routing bits into four separated two bits.

With respect to the appellant argues that Huang fails to disclose translated de-serialized and decoded binary digital signals as shown in four output paths in figure 5, Ref 520, 530 and 540 wherein the routing bits are decoded into two bits and de-serialized in order to compare with a predetermined pattern in order to translate them into a control signal for selecting a path (See col. 7, lines 7-20).

With respect to the appellant argues that Huang fails to disclose encoded destination address. In reply, Huang discloses encoded destination address (routing bits which used to route the signal to its destination).

With respect to the appellant argues that Huang fails to disclose signals specifying a route through the network if decoded. In reply, Huang discloses the routing bits if decoded will provide a path to the network (See col. 7, lines 7-20).

With respect to the appellant argues that Huang fails to disclose switch adapted to serially copy the encoded binary digital signals. In reply, Huang discloses the receiving packet is serially copied to header detector and routing bits selector of Fig 5, Ref 510 and 520.

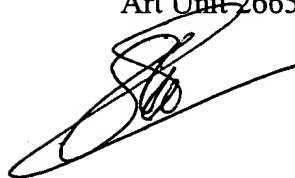
With respect to the appellant argues that Huang fails to disclose a portion of the header of packet. In reply, Huang disclose a receiving signal comprising a portion of the header of the packet (H1 and H2 of Fig 5).

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

Steven HD Nguyen  
Primary Examiner  
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August 25, 2005

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